

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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SERIAL NO.:

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TITLE: ION IMPLANTING APPARATUS

Preliminary Amendment: CLAIM AMENDMENTS

1. (Currently amended) An ion implanting apparatus comprising:
 - a wafer cassette capable of loading a plurality of wafers;
 - an implanting chamber ~~including~~ comprised of an implanting base;
 - a cassette-transferring module for moving the wafer cassette to a predetermined position; and
 - a wafer-transferring module for moving ~~the~~ a wafer from the wafer cassette to the implanting base.
2. (Original) The ion implanting apparatus of Claim 1, wherein the wafer cassette comprises a plurality of irradiation trays for loading the wafer.
3. (Original) The ion implanting apparatus of Claim 2, wherein the implanting base comprises a guiding slot for guiding the irradiation tray.
4. (Original) The ion implanting apparatus of Claim 2, further comprising:
 - an isolative sleeve, on which the implanting base is positioned; and

a current integrator electrically connected to the implanting base.

5. (Original) The ion implanting apparatus of Claim 1, wherein the cassette-transferring module comprises:

a rack positioned on the wafer cassette;

a gear functioning to drive the rack through rotation so as to move the wafer cassette forward; and

a first stepping motor for driving the gear.

6. (Original) The ion implanting apparatus of Claim 5, wherein the cassette-transferring module further comprises a guiding chute for guiding the moving direction of the wafer cassette.

7. (Original) The ion implanting apparatus of Claim 1, wherein the wafer-transferring module comprises:

a push plate for moving the wafer from the wafer cassette to the implanting base; and

a second stepping motor for driving the push plate.

8. (Original) The ion implanting apparatus of Claim 1, further comprising:

an ion generator for generating an ion beam;

a mass analysis magnet positioned between the implanting chamber and the ion generator;

a first multipole moment magnet positioned between the mass analysis magnet and the implanting chamber;

a deflection board positioned between the first multipole moment magnet and the implanting chamber; and

a second multipole moment magnet positioned between the deflection board and the implanting chamber.

9. (Original) The ion implanting apparatus of Claim 8, wherein the second multipole moment magnet is a quadrupole moment magnet for adjusting the direction of the ion beam to be perpendicular to the surface of the wafer.

10. (Original) The ion implanting apparatus of Claim 8, further comprising:

a gated vacuum valve positioned between the implanting chamber and the ion generator; and

an extension tube positioned between the implanting chamber and the gated vacuum valve.

11. (Original) An ion implanting apparatus, comprising:

an ion implanting chamber;

an ion generator for generating an ion beam;

a mass analysis magnet positioned between the implanting chamber and the ion generator;

a first multipole moment magnet positioned between the mass analysis magnet and the implanting chamber;

a deflection board positioned between the first multipole moment magnet and the implanting chamber; and

a second multipole moment magnet positioned between the deflection board and the implanting chamber.

12. (Original) The ion implanting apparatus of Claim 11, wherein the second multipole moment magnet is a quadrupole moment magnet for adjusting the direction of the ion beam to be perpendicular to the surface of the wafer.

13. (Original) The ion implanting apparatus of Claim 11, further comprising:

a gated vacuum valve positioned between the implanting chamber and the ion generator; and

an extension tube positioned between the implanting chamber and the gated vacuum valve.